

WHAT IS CLAIMED IS:

A 1. An image pickup device, characterized in that a refractive index distribution lens having a refractive index distribution which is substantially proportional to the square of the distance from the optical axis <sup>of the lens</sup> in a cross-section vertical to the optical axis is provided as an imaging lens in the neighborhood of an imaging face of an image pickup element.

2. The image pickup device as claimed in claim 1, wherein said refractive index distribution lens is adhesively attached to said imaging face of said image pickup element by adhesive agent.

3. The image pickup device as claimed in claim 1, wherein an optical thin film for reflecting infrared rays is provided on <sup>a</sup> ~~the~~ light incident face of said refractive index distribution lens.

A 4. The image pickup device as claimed in claim 1, wherein infrared-ray absorption means for absorbing infrared rays is provided at <sup>a</sup> ~~the~~ light incident face side of said refractive index distribution lens.

A 5. The image pickup device as claimed in claim 1, wherein curvature is provided to one or both <sup>end</sup> ~~of the~~ surfaces of said refractive index distribution lens.

6. An image pickup device, characterized in that a single refractive index distribution lens is provided as an imaging lens in the neighborhood of an imaging face of an image

pickup element, and the lens length of said refractive index distribution lens is set to a value obtained by dividing a meandering period  $P = 0.5\pi + n\pi$  ( $n = 0, 1, 2, \dots$ ) by a refractive index distribution constant of said refractive index distribution lens for a use wavelength of said image pickup device.

7. The image pickup device as claimed in claim 6, wherein the refractive index distribution of said refractive index distribution lens is substantially proportional to the square of the distance from the optical axis in a cross-section vertical to the optical axis.

8. The image pickup device as claimed in claim 6, wherein said refractive index distribution lens is adhesively attached to said imaging face by adhesive agent.

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